

CLAIM LISTING

1. (Currently Amended) A fiber optic sensing system for use in a remote location, comprising:

an optical fiber adapted to carry an optical signal from a starting location towards a remote location;

the fiber adapted to transmit at least one information-carrying signal from the remote location towards the starting location;

the information-carrying signal carrying information related to a parameter that is sensed in the remote location said parameter comprising at least one of temperature, strain, pressure, distributed temperature, distributed strain, distributed pressure, flow density, resistivity, acoustic pressure, acceleration, or chemical properties;

the fiber operated in a region of negative chromatic dispersion; and

the optical signal being at a power level sufficient to generate modulation instability in the fiber were operated in a region of positive chromatic dispersion.

2-6. Cancelled.

7. (Original) The system of claim 1, wherein the fiber transmits the information-carrying signal from a sensor.

8. (Original) The system of claim 7, wherein the sensor is an intrinsic sensor.

9. (Original) The system of claim 7, wherein the sensor is an extrinsic sensor.

10-17. Cancelled.

18. (Currently Amended) A method for sensing a parameter in a remote location, comprising:

providing a fiber;

carrying an optical signal through the fiber from a starting location towards a remote location;

operating the fiber in a region of negative chromatic dispersion;

carrying the optical signal at a power level sufficient to generate modulation instability if the fiber were operated in a region of positive chromatic dispersion;

sensing a parameter in the remote location where the parameter comprises at least one of temperature, strain, pressure, distributed temperature, distributed strain, distributed pressure, flow density, resistivity, acoustic pressure, acceleration, or chemical properties; and

transmitting at least one information-carrying signal through the fiber from the remote location towards the starting location, the information-carrying signal carrying information related to the parameter.

19-23. Cancelled.

24. (Original) The method of claim 18, wherein the sensing step comprises sensing the parameter with a sensor and the transmitting step comprises transmitting the information-carrying signal from the sensor.

25. (Original) The method of claim 24, wherein the sensor is an internal sensor.

26. (Original) The method of claim 24, wherein the sensor is an external sensor.

27-34. Cancelled